



UNIVERSITY
OF MANITOBA

Faculty of Engineering

Innovative Design for Engineering Applications

UofM IDEA Program
Design Engineering
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Program Information

What is the Program?

The mission of the UofM IDEA Program is to work collaboratively with local companies to develop Capstone design projects for University of Manitoba engineering students to complete during their final year. We aid industry partners to identify and scope suitable projects, prepare necessary application forms, and assist with legal aspects of the collaborations. We also provide additional support to the faculty of engineering through the relationships we build with industry partners to aid in the students' professional development and networking, as well as assist in various other capacities to foster an excellence in engineering education.

What is the Capstone Design Course?

The mechanical engineering course is a single-semester (September to December), fourth-year course, in which the students collaborate in groups of four to six to apply the design process to a real-world engineering problem. These teams will spend time adequately understanding and defining the, applying various idea generation techniques to develop solutions, and developing a report for an implementable design to be used by the sponsoring company. The progression of the projects is supervised by engineering professors and Engineers-in-Residence who act as internal sources of experience and expertise.

The biosystems engineering course is similar in many respects to the mechanical course, but also incorporates a second semester of work (extending the course from September-April) during which proof-of-concept "prototypes" are developed in the university facilities.

What are the Program Outcomes?

As an industry partner, the Program would provide you with low-cost exposure to graduating engineering students and increase your company's presence upon our student body. A sponsoring company will receive approximately 300-350 hours of engineering work, consolidated into a thorough design report justifying the rationale behind their design decisions. In the case of the biosystems Capstone course, the students are expected to fabricate a proof-of-concept of their design in addition to their design report. Our industry partners are able to



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communicate and interact with graduating students; this could be viewed as a four-to-eight-month-long job interview.

What types of projects do we look for?

The most important factor is a project that fits the scope of the course. The UofM IDEA Program is here to help properly scope your project through meetings, site visits, and consultation with the course instructors. The projects we look for are typically smaller in scale, something that the sponsoring company would like to have completed but cannot justify allocating important resources to; examples could include equipment or fixture design, process improvement, environmental design, or employee health and safety.

What is required for my company to get involved?

The commitment on your end would include allocating some time to scope and select a project, and provide some availability during the duration of the course to communicate and work with the students. The funding agreement signed between your company and the University of Manitoba will assess you \$1,750 for every accepted project. Additionally, all IP generated as a result of the project will belong to the sponsoring company.

For additional information regarding the Program or the Capstone Design Courses, please feel to contact us and to visit our website: www.umanitoba.ca/engineering/idea